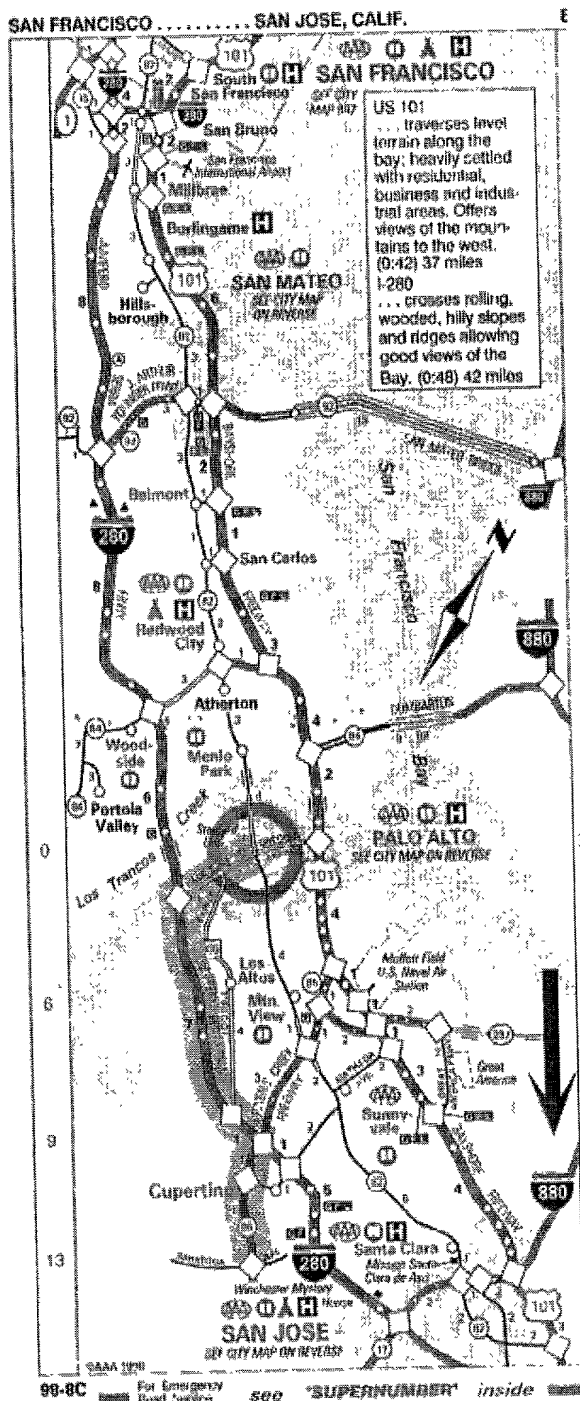


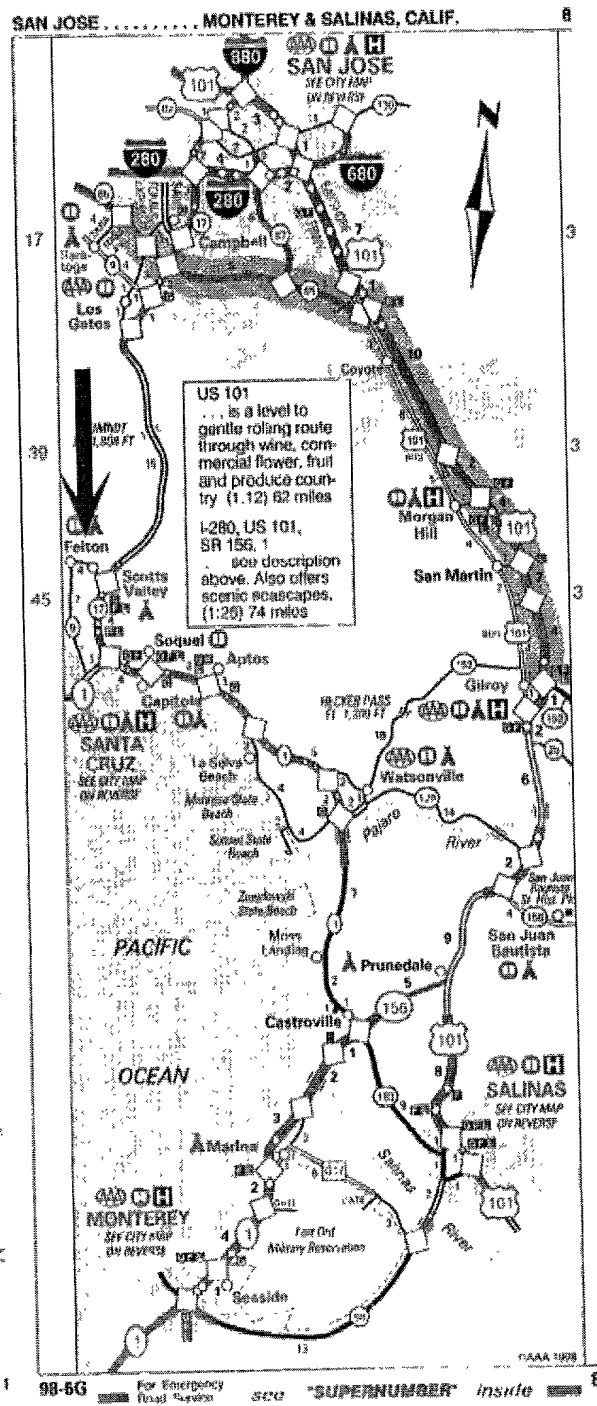
This is a detailed street map of the Northridge area in Los Angeles, California. The map shows a grid of streets including 20th through 29th, Alvarado, Elizabeth, Jersey, Clipper, Army, Duncan, Valley, and Sanchez. Key landmarks include Douglas Playground, Diamond Heights, and Glen Canyon Park. Arrows point to specific locations: Liberty (marked with an asterisk), Sanchez, Church, and Fairmount.

FIG. 1

0000077 9492260



Page 1



Page 2

(Prior Art)

FIG. 2

(a)



(Prior Art)

FIG. 3

A hand-drawn map of the San Francisco Bay Area. The map shows the following features:

- San Francisco (SF):** Indicated by a box labeled "SF" on the left side.
- Highways:**
 - 80 (3 miles):** Labeled "BAY BRIDGE" and "80 (3 miles)".
 - 101 NORTH:** Labeled "101 NORTH" with an arrow pointing north.
 - 84:** Labeled "84" with a distance of "(2 miles)".
 - ALAMEDA DE LAS PULGAS:** Labeled "ALAMEDA DE LAS PULGAS" with a distance of "(2 miles)".
 - 580 EAST:** Labeled "580 EAST" with a distance of "(1 1/2 miles)".
 - 24 EAST:** Labeled "24 EAST" with a distance of "(1 mile)".
- Landmarks and Locations:**
 - CAL CAMPUS:** Labeled "CAL CAMPUS" with an arrow pointing to a star symbol.
 - BERKELEY:** Labeled "BERKELEY" in a box.
 - OAKLAND:** Labeled "OAKLAND" in a box.
 - OAKLEY:** Labeled "OAKLEY" with a star symbol and a distance of "(1 mile)".
- Other Symbols:**
 - "breakage" symbol:** A symbol consisting of two short, parallel lines, labeled "breakage symbol".
 - start symbol:** A symbol consisting of a circle with a dot inside, labeled "start symbol".
- Orientation:** An arrow labeled "NORTH" points towards the top left.

FIG. 4

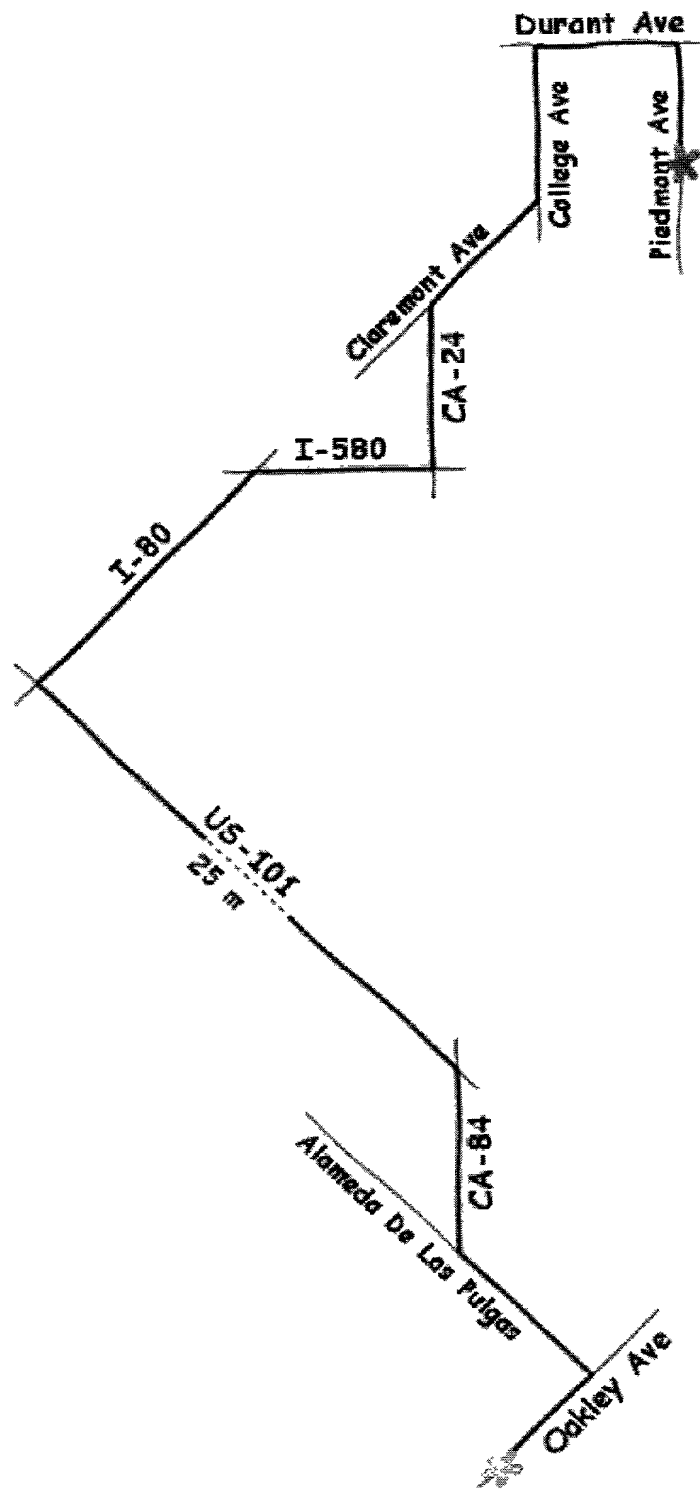


FIG. 5

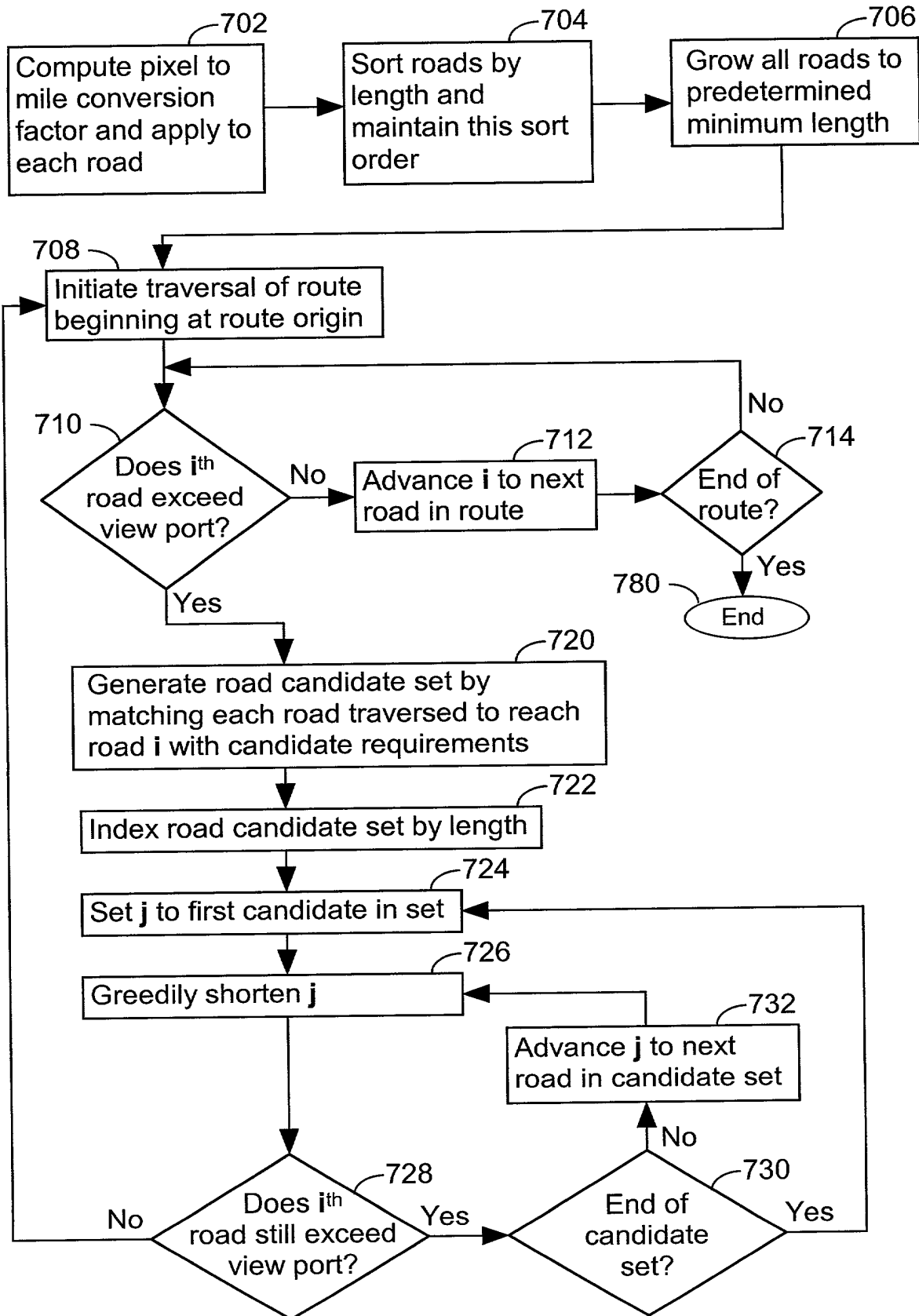


FIG. 7

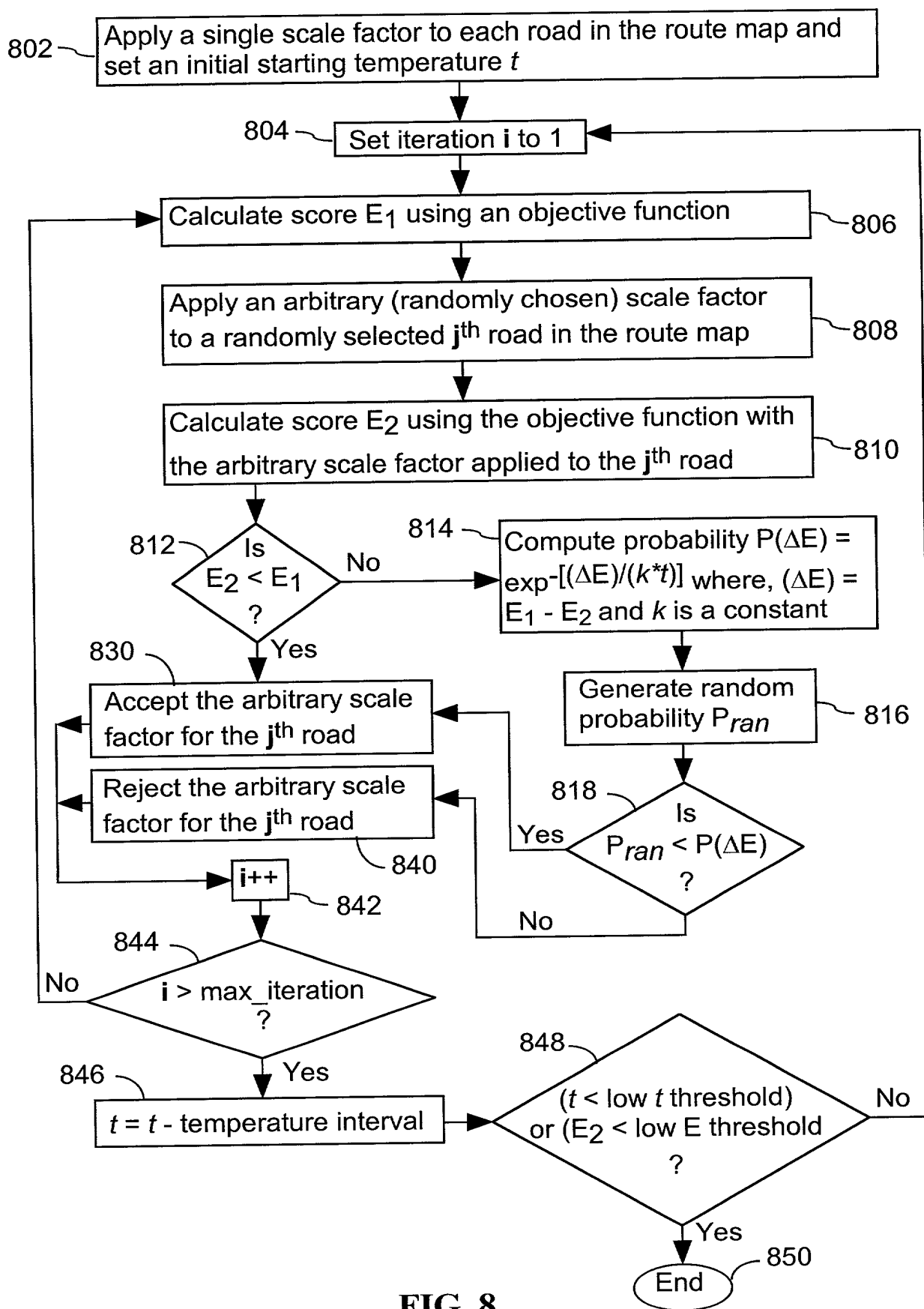


FIG. 8

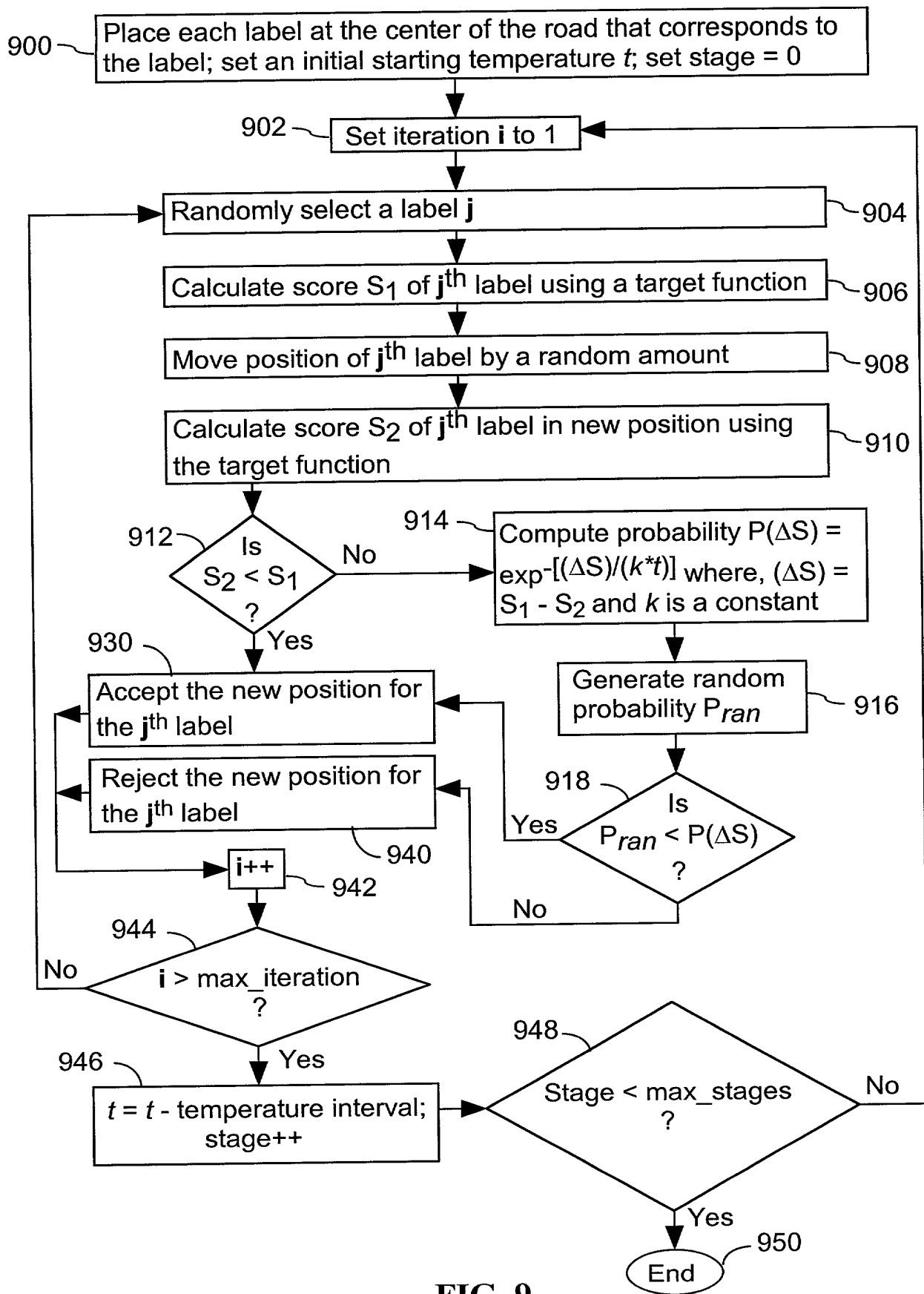


FIG. 9

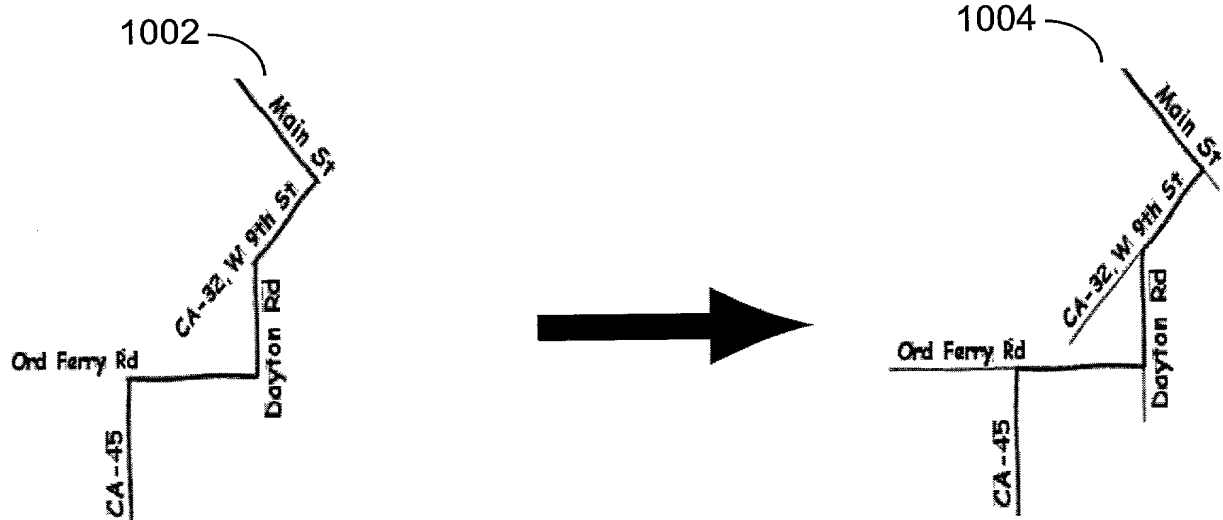


FIG. 10

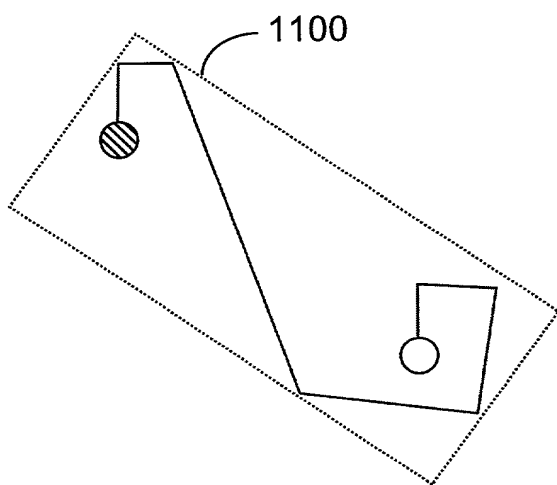


FIG. 11A

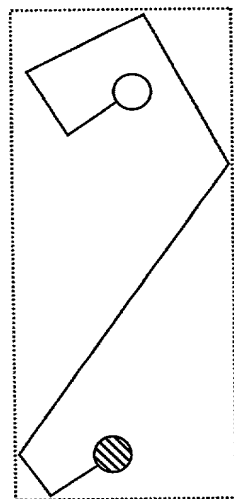


FIG. 11B

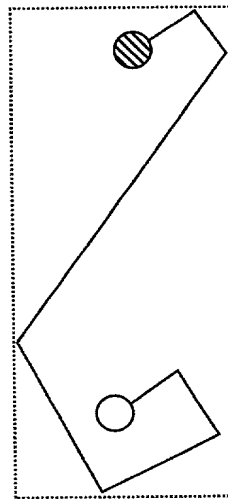


FIG. 11C

1202

Valley St. 0.5

XXX 1st Ave N

Denny Way 0.5

Newest St 1.5

WA-520 5.6

Lake Washington Blvd NE 0.2

Bedford Way NE 1.5

XXX NE 6th St

FIG. 12

FIG. 13

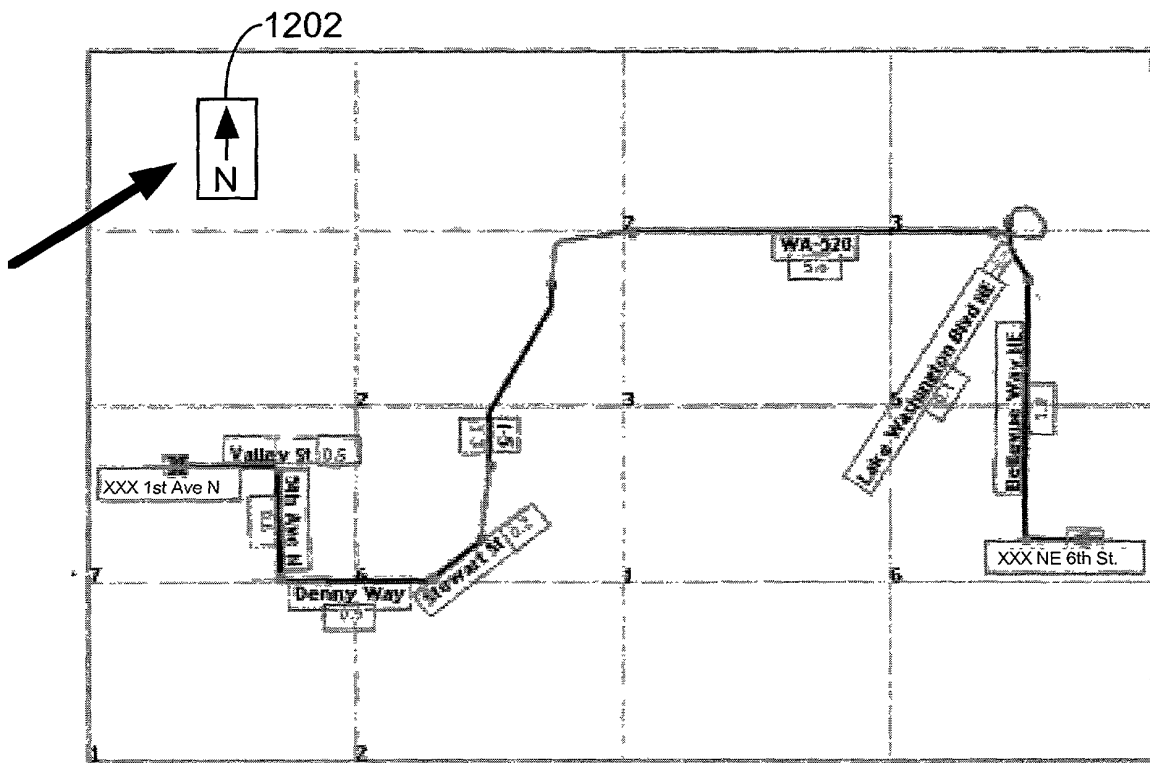


FIG. 14

A map of a city block with a large oval highlighting a specific area. A north arrow is in the top left. Labels include '1202' pointing to a building, '1504' pointing to a building, 'XXX 1st Ave N' on the left, 'XXX NE 6th St' on the right, and 'Somewhere, USA' with a line pointing to the highlighted area.

FIG. 15

FIG. 16

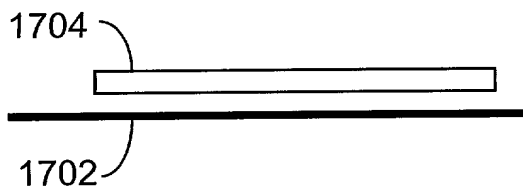


FIG. 17A

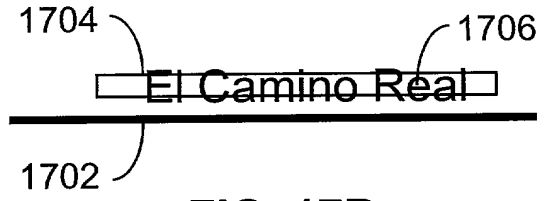


FIG. 17B

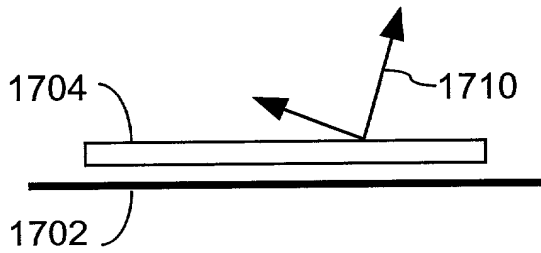


FIG. 17C

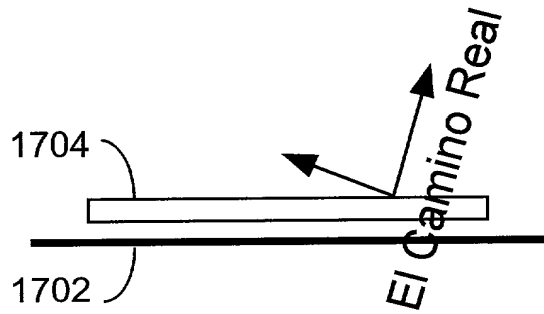


FIG. 17D



FIG. 18A



FIG. 18B

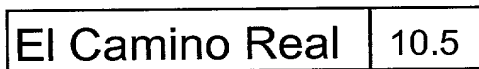


FIG. 18C



FIG. 18D



FIG. 18E

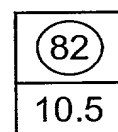


FIG. 18F

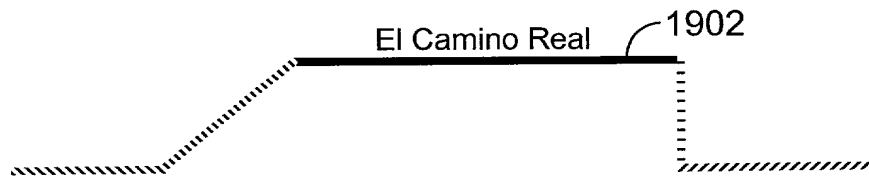


FIG. 19A

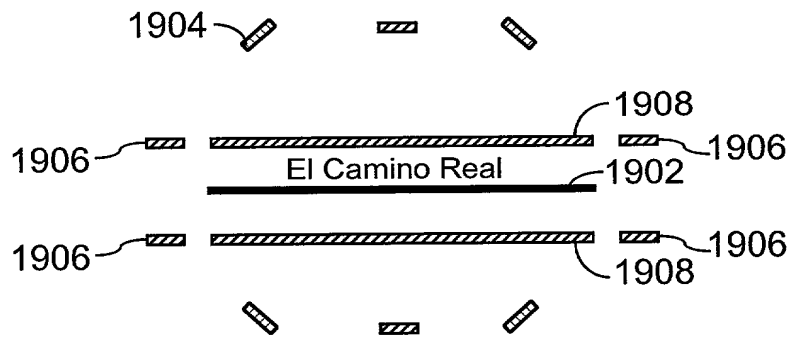


FIG. 19B

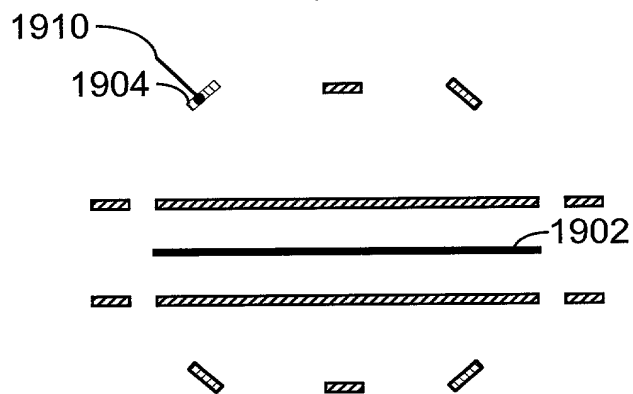


FIG. 19C

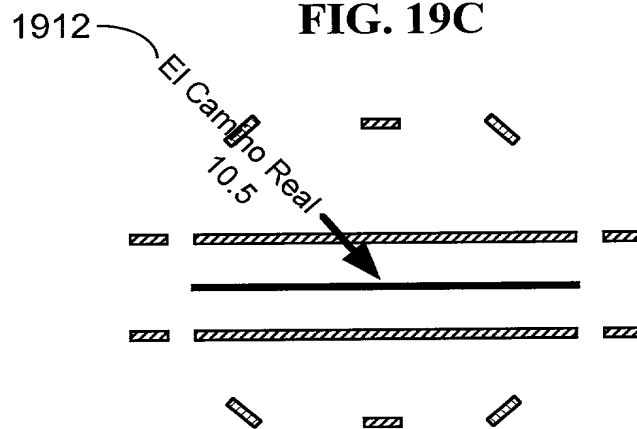


FIG. 19D

Associate a set of constraints with each label in the scaled route map 2002

For each label in the scaled route map, pick a constraint definition from the set of constraint definitions associated with the label and position the label within the bounding box defined by the constraint definition 2004

Fix all centered labels that do not contact any other label 2006

Set iteration i to 1 2008

Randomly select a label j from the set of labels that has not been fixed 2010

Calculate score S_1 of all label positions using the target function 2012

Randomly select a constraint definition k from the set of constraint definitions associated with label j and position label j in accordance with the layout style, bounding box, and orientation of k 2014

Calculate score S_2 of all label positions, with label j in the new position, using the target function 2016

Is $S_2 < S_1$? 2018
 No 2020
 Compute probability $P(\Delta S) = \exp[-(\Delta S)/(k \cdot t)]$ where, $(\Delta S) = S_1 - S_2$ and k is a constant

Generate random probability P_{ran} 2022

Is $P_{ran} < P(\Delta S)$? 2024
 Yes
 No
 Accept the new position for the j th label; fix j th label when S_2 is acceptable 2026
 Reject the new position for the j th label 2028

$i++$ 2030

Is $i > \max_iteration$? 2032
 No
 Yes

$t = t - \text{temperature interval};$
 $\text{stage}++$ 2034

Is $\text{Stage} < \max_stages$? 2036
 Yes
 No
 End 2038

FIG. 20

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

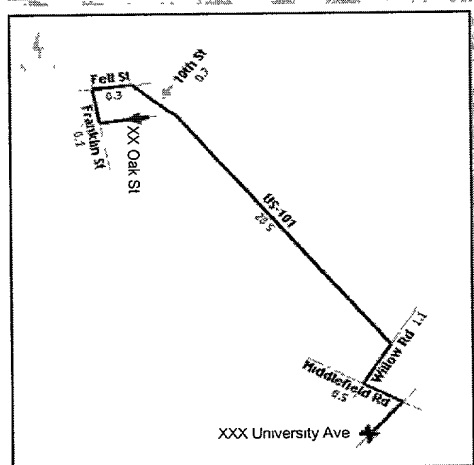


FIG. 21C

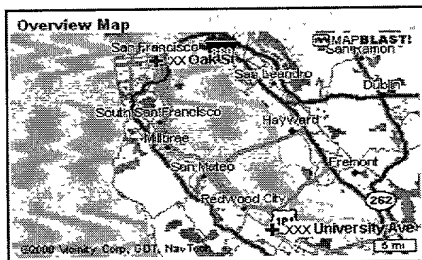
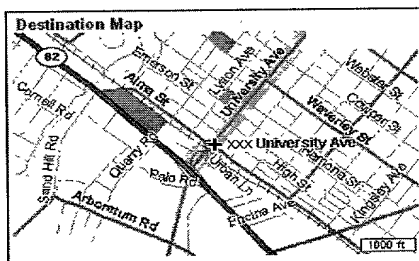


FIG. 21E



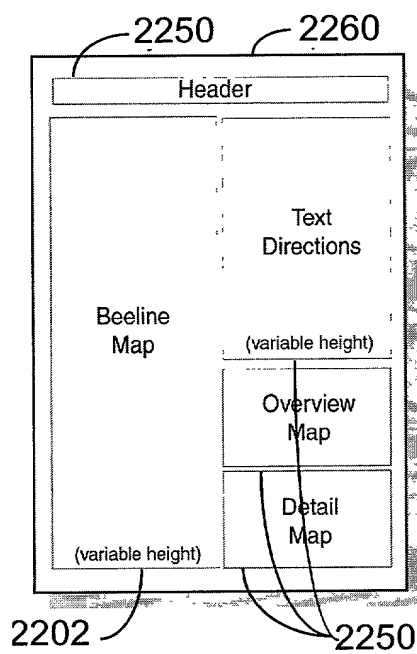


FIG. 22A

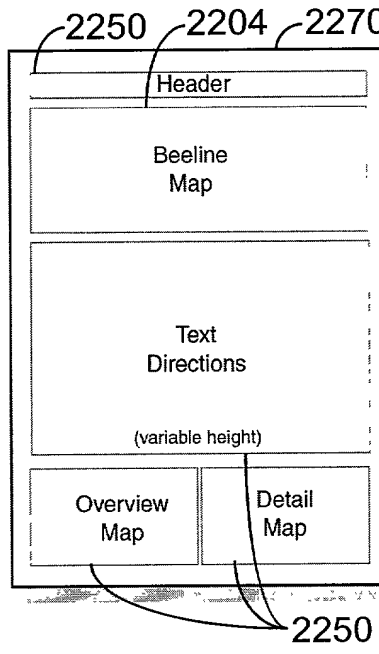


FIG. 22B

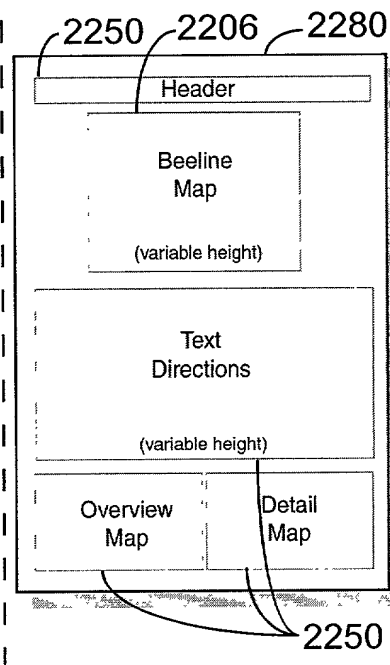


FIG. 22C

A map showing the route of WA-520. The route starts at Queen Anne Blvd, goes south on Warren Ave N, then east on Valley St (0.5 miles), south on 5th Ave N (0.6 miles), east on Denny Way (0.9 miles), south on Stewart St (0.2 miles), east on E Montlake St (5.6 miles), south on Bellevue Way NE (1.8 miles), and finally east on Lake Washington Blvd NE (0.1 miles). The route ends at XXXX NE 8th St. A north arrow is in the top left corner.

FIG. 23

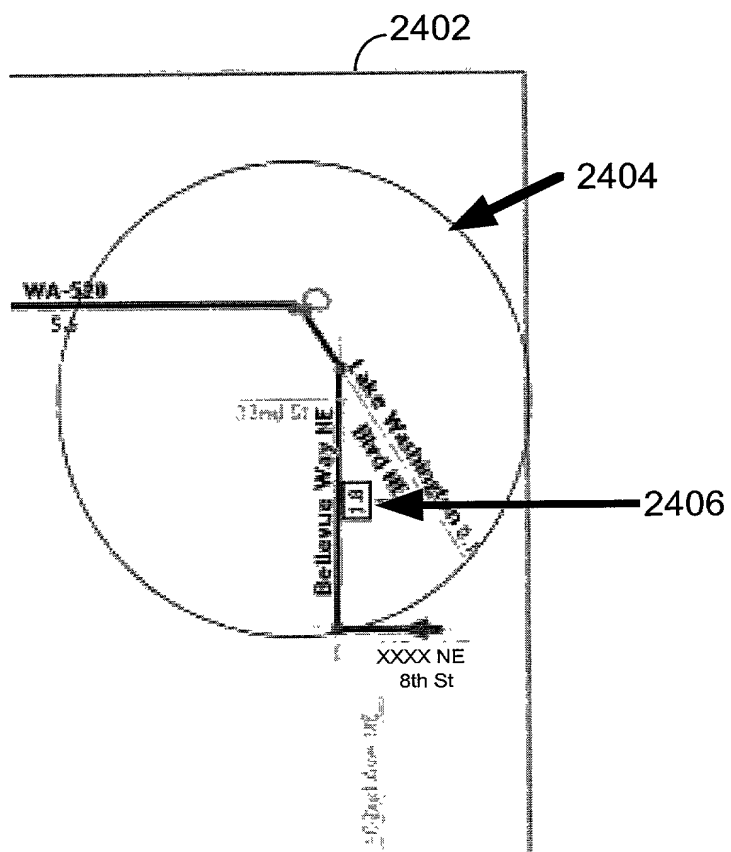
[illegible]

FIG. 24

FIG. 25

- 2602

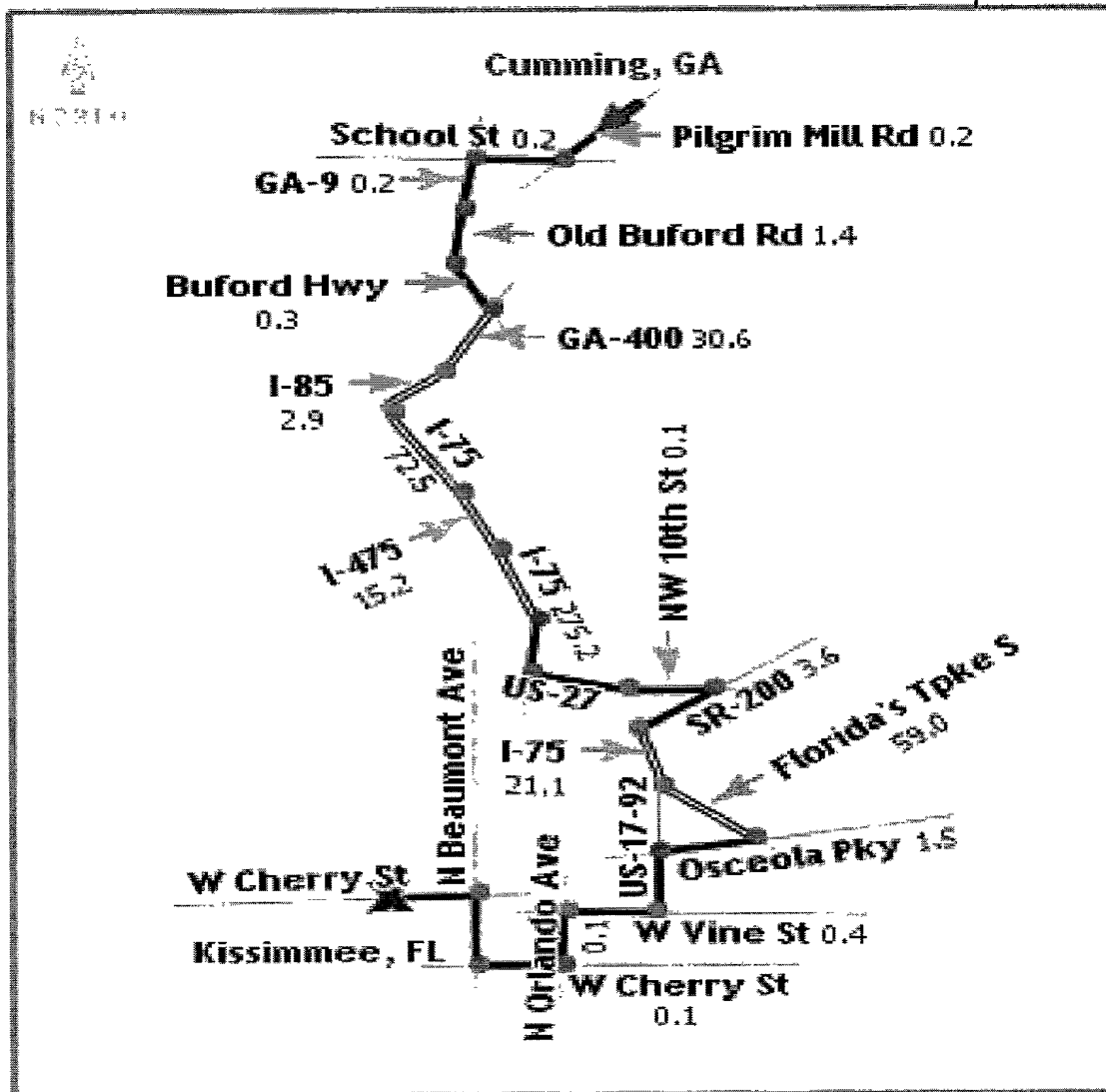


FIG. 26

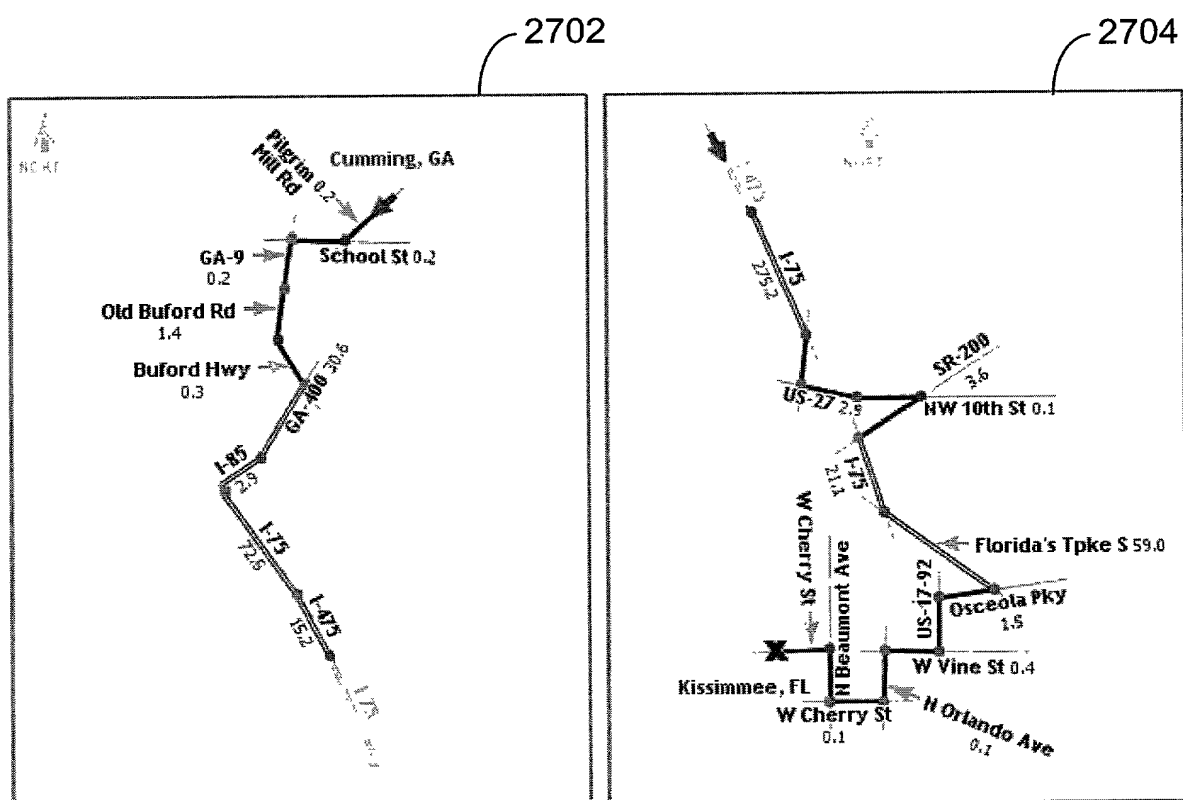


FIG. 27

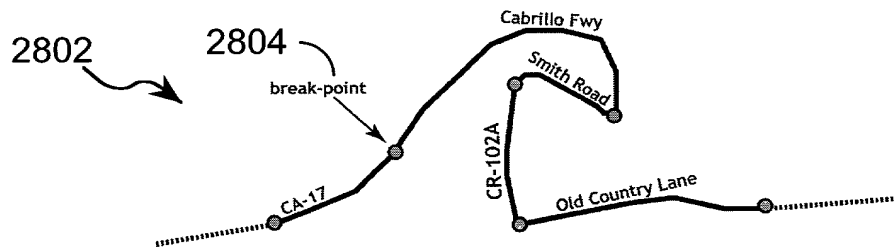


FIG. 28A

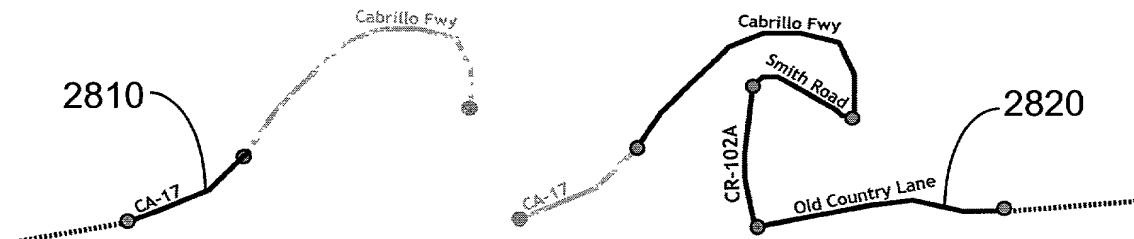


FIG. 28B

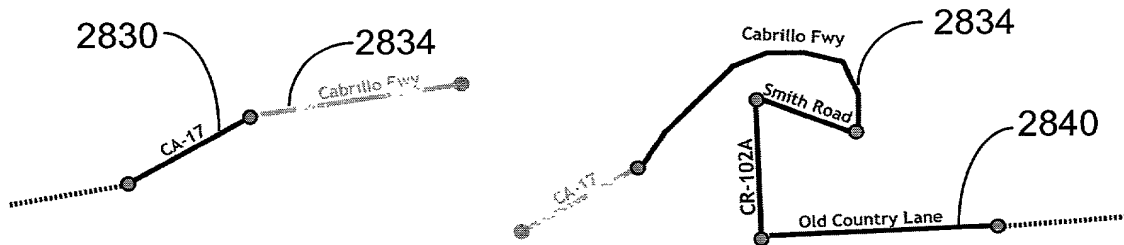


FIG. 28C

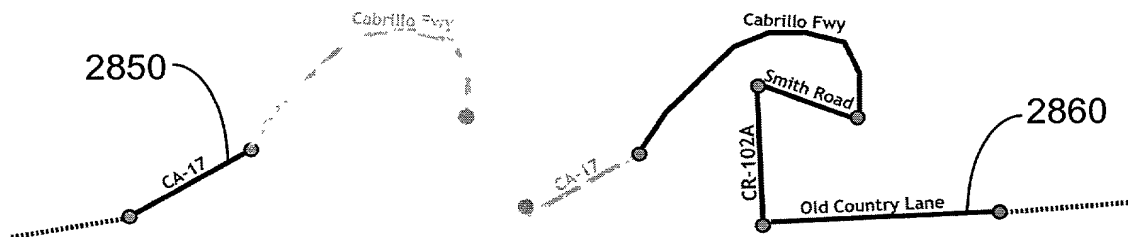


FIG. 28D

The map illustrates the proposed I-55 corridor and its connection to existing infrastructure. The main map shows the corridor starting from the south, passing through the intersection of I-80 and I-680, and continuing north towards US-62 and US-422. A detailed inset map provides a closer look at the intersection of I-55 and I-74, showing the proposed I-55 corridor and surrounding roads like E Cabin Town Rd, Beich Rd, Cabintown Rd, and New Cabintown Rd. The map also includes a north arrow and a scale bar.

FIG. 29

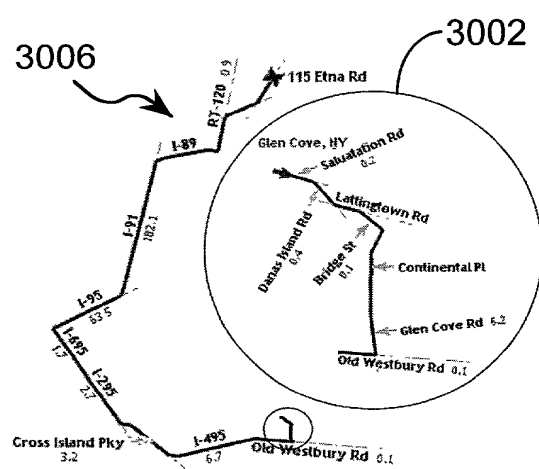
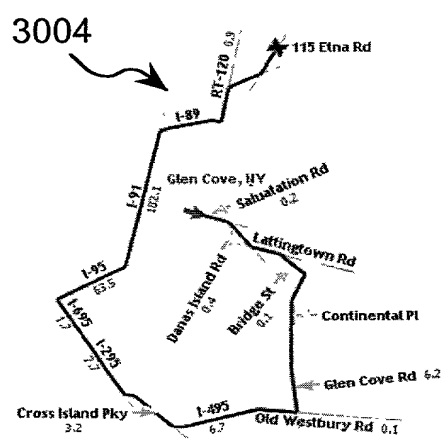


FIG. 30

The image contains two diagrams of a proposed road alignment. The left diagram shows a route starting from Keokuk, IA, passing through Johnson St Rd, McKinley Ave, and US-218, then turning north on US-61 to Davenport, IA. The right diagram shows a similar route but with a different alignment for the US-6 segment, which is highlighted in a circular inset labeled 3102. The inset shows the intersection of Wilkes Ave and W 36th St.

-3102

The map shows the study area (indicated by a star) located near the intersection of Ranch Rd and Pescadero Creek Rd. The map includes labels for various roads and landmarks, along with distances. The roads shown are CA-92, Woodside Rd, Bayshore Hwy, El Camino Real, 704 Campus Dr, Roth Way, Campus Dr W, Ranch Rd, Pescadero Creek Rd, Willow Springs Rd, Cloverdale Rd, and Palm Dr. Distances are marked along the roads, and a scale bar is provided.

The map illustrates the proposed 704 Campus Drive project area in Pescadero, CA. The project route is shown as a gray-shaded area connecting several existing roads. The roads and their distances are as follows:

- CA-92 (12.6 miles)
- Bayshore Fwy (0.3 miles)
- Woodside Rd (0.5 miles)
- Laurel St (0.5 miles)
- El Camino Real (3.5 miles)
- 704 Campus Dr (0.1 miles)
- Pescadero Creek Rd (2.5 miles)
- Cloverdale Rd (0.9 miles)
- Ranch Rd (1.1 miles)
- Willow Spring Rd (0.1 miles)
- Roth Way (0.1 miles)
- Campus Dr W (0.5 miles)

The map also shows the location of Pescadero, CA, and the project area is shaded in gray.

FIG. 32B

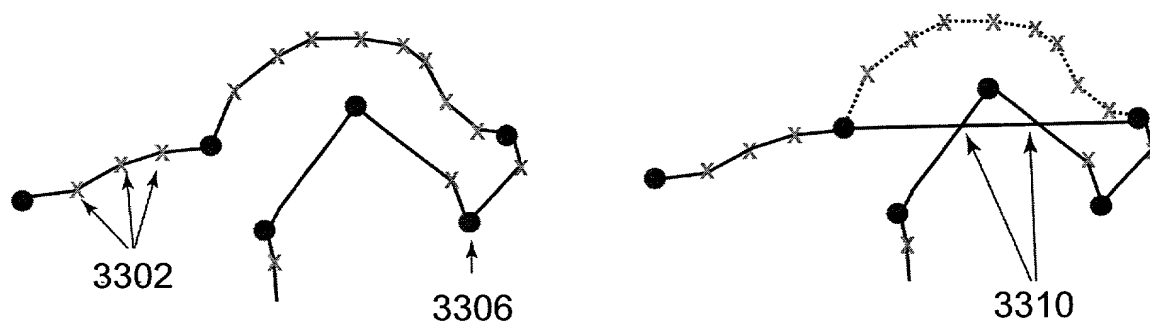


FIG. 33A



FIG. 33B

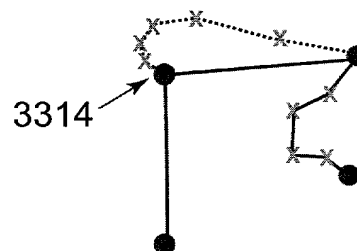


FIG. 33C

FIG. 34

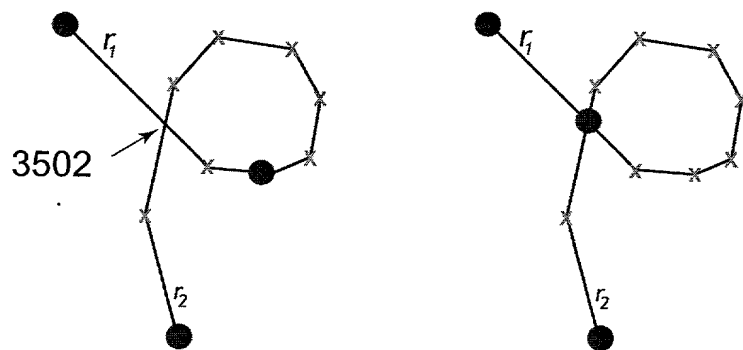


FIG. 35

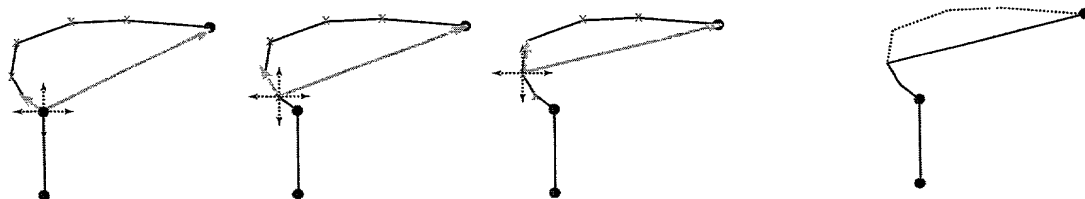


FIG. 36A

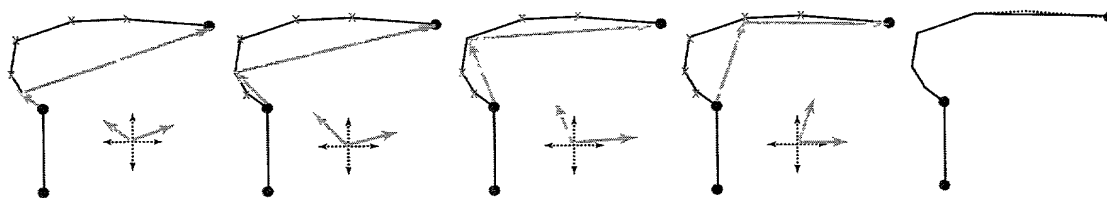


FIG. 36B

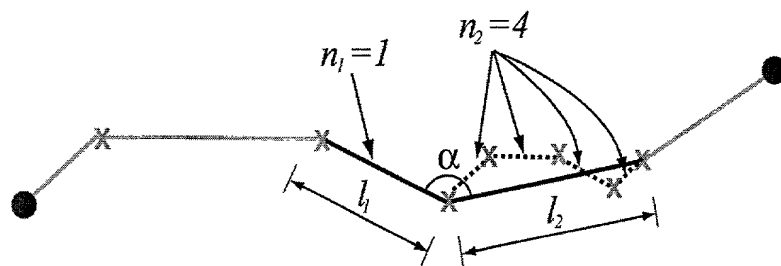


FIG. 37

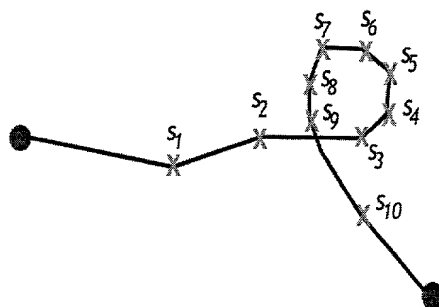


FIG. 38

FIG. 39

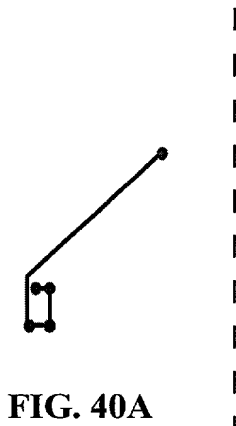


FIG. 40A

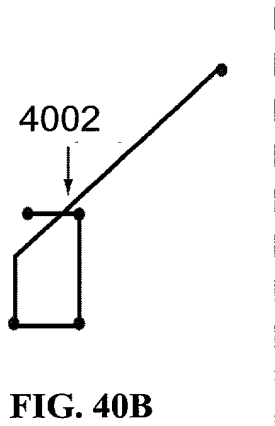


FIG. 40B

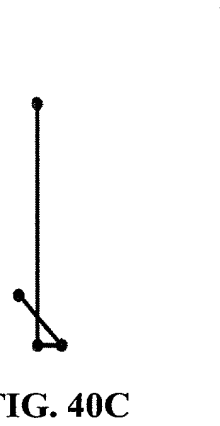


FIG. 40C

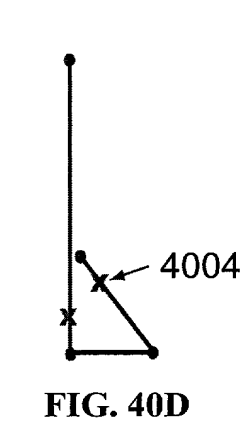


FIG. 40D

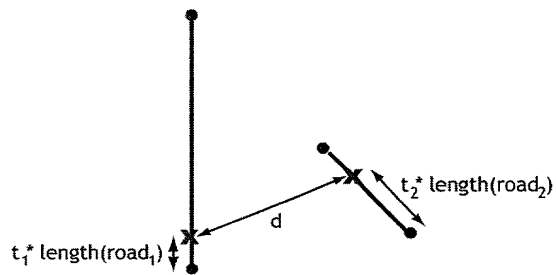


FIG. 41A

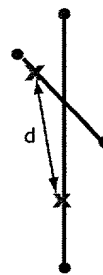


FIG. 41B

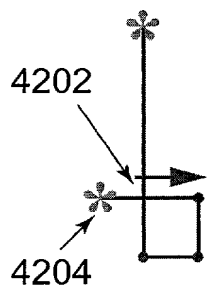


FIG. 42A

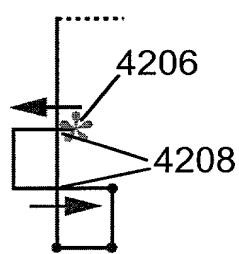


FIG. 42B

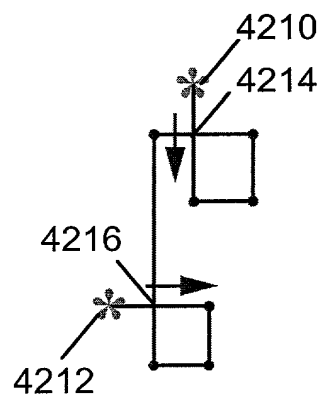


FIG. 42C

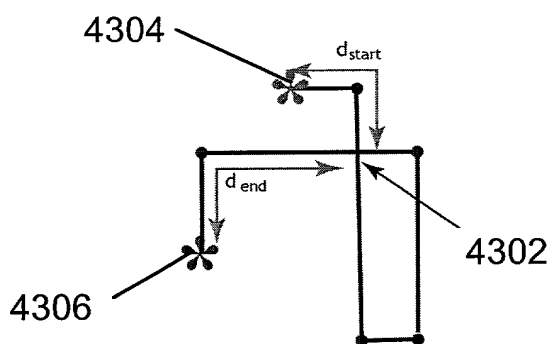


FIG. 43

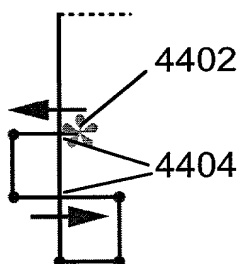


FIG. 44A

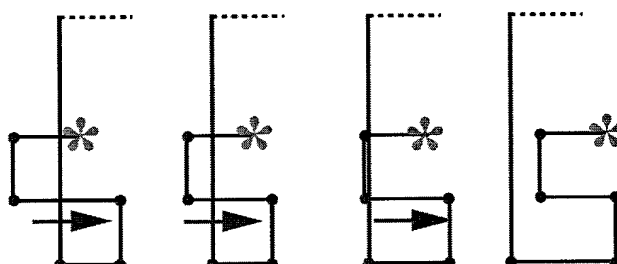


FIG. 44B

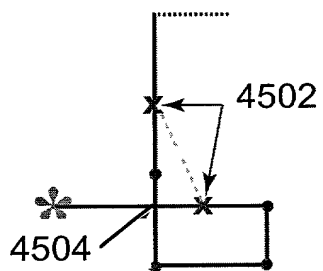


FIG. 45A

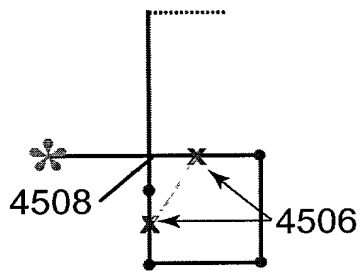


FIG. 45B

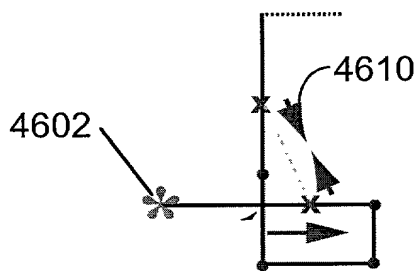


FIG. 46A

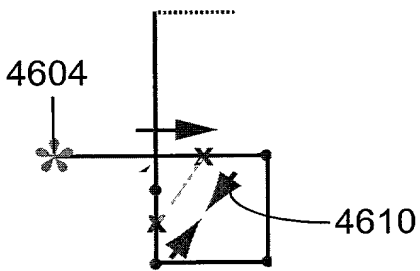


FIG. 46B

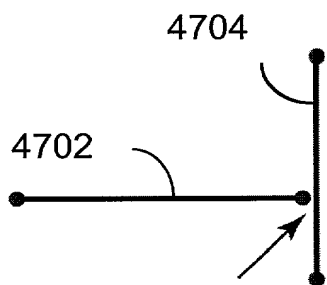


FIG. 47A

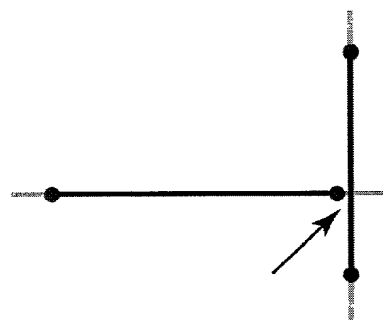


FIG. 47B

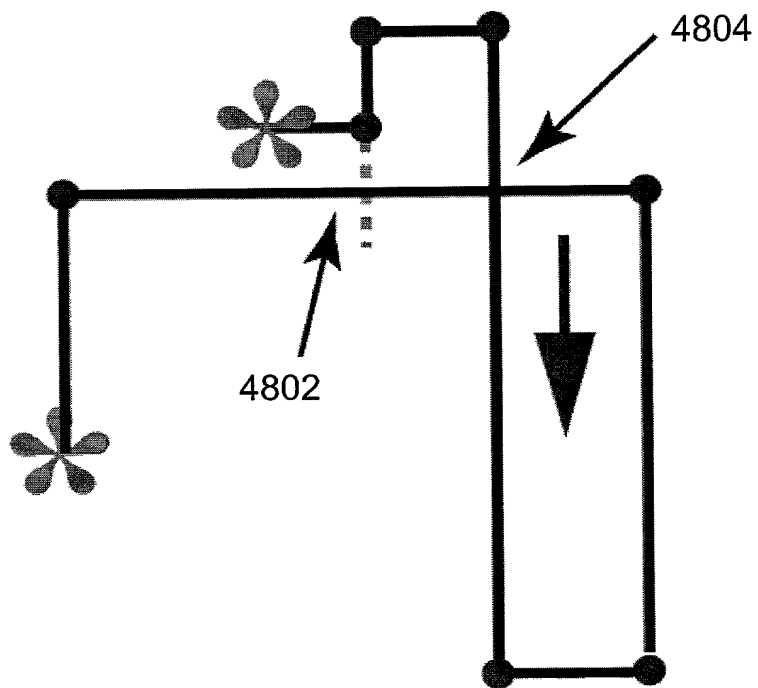


FIG. 48

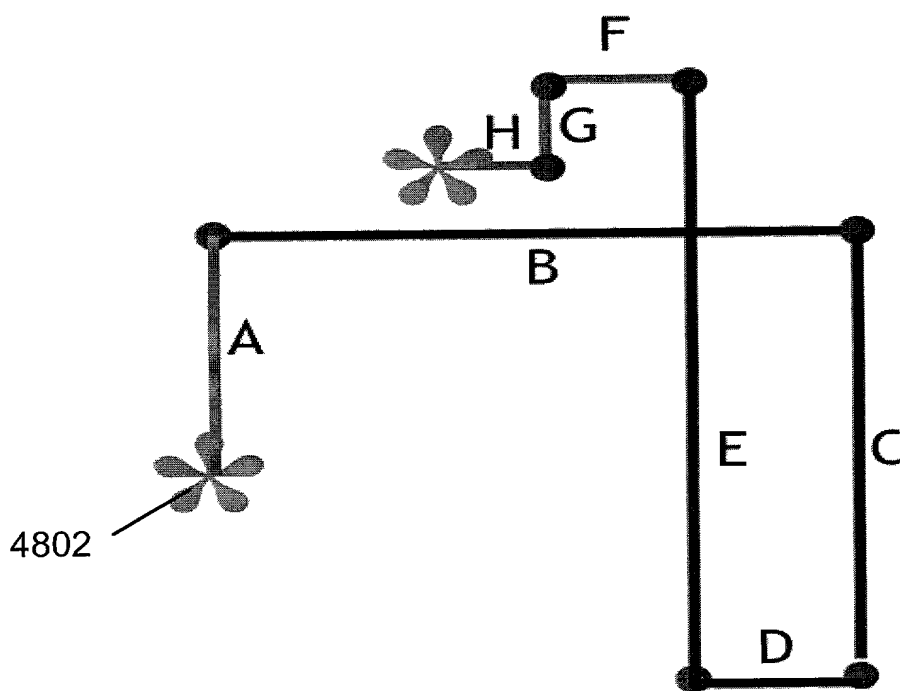


FIG. 49